



THE HISTORY OF
THE FACULTY OF MEDICINE
OF
THE UNIVERSITY OF ALBERTA
1913 - 1963

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John W. Scott, FORMER PROFESSOR OF MEDICINE
AND DEAN OF THE FACULTY OF MEDICINE

*The History of the
Faculty of Medicine of
The University of Alberta
1913 - 1963*

1963, The University of Alberta

To
J. Bertram Collip
my teacher and former chief

Foreword

It is a great honor for me to participate in this history by writing a foreword. It gives me particular pleasure because it presents an opportunity to briefly record the contribution of Dr. John W. Scott to the University of Alberta Medical School. Dr. Scott, with his characteristic modesty, has omitted in this historical account of the Medical School any reference to the part he has played in its development. In 1948, John Scott followed Dean Ower in the deanship. It was at a crucial time in the history of the Medical School because there was a continuing requirement for graduate training programs in the clinical fields to take care of our own graduates and others returning from overseas with no available appointments in graduate training programs elsewhere. In his quiet, efficient, and competent manner he continued and expanded the organization of a graduate training program which involved most of the clinical specialties. His vision and dedication contributed in no small measure to the success of these graduate training programs, and a little later on in his regime he was responsible for the growth in the research programs in all preclinical and clinical departments within the Faculty.

John Scott was the first person in the University of Alberta Medical School to imbue the Faculty with the fact we should not only take care of patients, but that we should participate in the training of young men and women for various specialties to continue the care of people in the future. He knew that this training program must be carried out in a stimulating and progressive atmosphere, asking questions and attempting to provide the answers, which, after all, is the basis for research in any discipline. He attempted to teach us, as well as the public at large, that the teaching hospital, behind its immediate and primary dedication to patient care, has an obligation to provide the best in undergraduate and graduate education and opportunities for research, and his contribution has been truly outstanding.

In this brief, interesting, and factual document he has recorded the early story of the University of Alberta Medical School. Administration, alumni, faculty, and students are grateful to him for his keen interest and devotion to this institution.

Walter C. MacKenzie

Preface

This brief outline of the history of The Faculty of Medicine of the University of Alberta has been prepared for the occasion of its Fiftieth Anniversary in 1963. One must admit the omission of some important events and worthy names in this brief narrative. An attempt has been made to present some of the highlights in the evolution of the Medical School in its first 50 years. My thanks are due to Dr. John Macdonald for allowing me to quote from his "History of the University of Alberta," to Dr. D. F. Cameron, Assistant Dean of the Faculty, for making available the Faculty records, to Dr. R. E. Bell for his contribution to Chapter VI, and to Miss Margaret Climie for her valuable help in the preparation of the Appendix and for typing the manuscript.

The task of preparation has been an enjoyable one and has revived many pleasant memories of students and staff whom I have had the privilege of knowing over 50 interesting years.

John W. Scott

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CHAPTER I

The Beginning of the University

THE Canadian scene in 1905 was one of increasing interest in the West with demands for the granting of autonomy to Saskatchewan and Alberta from the North West Territories. The newly elected Ninth Parliament of Canada met in January of that year. On February 21st, Sir Wilfrid Laurier, the prime minister, introduced a bill which provided for the admission of Alberta and Saskatchewan as members of the Canadian Family of Provinces. The bill was passed, and on September 1, 1905, the Province of Alberta came into being.

A provincial government was set up with Hon. A. C. Rutherford as its first premier. The entire population of the new province was a scant 300,000, with less than 15,000 residents in the City of Edmonton, the provincial capital. The problems of setting up administration of an area of 250,000 square miles with this scattered population must have been a challenge to the new government.

Premier Rutherford, who was also Minister of Education, in the first session of the Legislative Assembly, with courageous vision, brought in a bill, in 1906, authorizing the establishment of a provincial university. In 1907, the Provincial Government acquired River Lot No. 5.

fronting on the North Saskatchewan River, as a site for the University Campus. This area of 258 acres seemed adequate, at that time, for the needs of the University. On looking at an early map of Edmonton it is interesting to note that the adjoining River Lot No. 7 was a farm owned by Laurent Garneau. It would have been difficult in 1907 to realize that, only 50 years later, the University would require Garneau's farm, now a residential area, for the extension of its campus.

The first step in the setting up of the University of Alberta was taken in 1907, when the registration of the charter members of Convocation was begun. By the following year, 364 graduates of British and Canadian universities had registered. Among these there were 104 doctors of medicine. The first duty of Convocation was to elect five of the 15 members of the University Senate. The newly constituted Senate elected Mr. Justice C. A. Stuart, of Calgary, as the chancellor of the University.

Early in the following year Henry Marshall Tory, a professor of physics at McGill University, was appointed as president of the University. The first faculty to be established was that of Arts and Science, and in the autumn of 1908 teaching began with four professors and a class of 45 students. The teaching was first carried out on the top floor of one of the schools of the City of Strathcona. The first University building to be constructed on the new campus was Athabasca Hall, which was built in 1911 and housed all University teaching for the next three years. The University graduated its first class in 1912 and in the following year became interested in expanding its teaching into the professional fields, including medicine.

In 1913, there were seven medical schools in Canada at each of Dalhousie, Laval, McGill, Queen's, Toronto, Western Ontario, and Manitoba Universities. No medical school existed west of Winnipeg. The population of the Province of Alberta in 1913 was about 400,000, with the names of 423 medical practitioners appearing on the medical register of that year. Of this group, somewhat less than 400 were in active practice. The preponderance of practicing doctors in urban centres was evident then, as now. The City of Edmonton, which had in the previous

year amalgamated with the City of Strathcona, had 75 doctors. It is interesting to note that 50 years later about twice that number are engaged in graduate training in the teaching hospitals of the Faculty of Medicine of the University of Alberta.

Today medical educators would have some hesitation in setting up a medical school with the problems of obtaining staff, equipment, a building, and an adequate operating budget in such a sparsely settled community. However, the University of the day was looking far into the future with Henry Marshall Tory, as a man of vision, at the helm. Dr. Tory had in 1912 offered a building site on the University campus to the City of Strathcona for a City hospital. The offer was accepted and the Strathcona Hospital, a modern structure with 80 beds, was built at a cost of \$100,000 and began operating in 1913. Dr. Tory had wisely stipulated that, if and when, clinical teaching in medicine was initiated by the University, the Strathcona Hospital could be used for this purpose. It has been stated that among the reasons for establishing a Faculty of Medicine in Alberta was the expected increase of Alberta's population, and the hope that students recruited into the Faculty from rural areas in the Province would be more likely to settle in their home communities in practice, where there was a sparsity of doctors. There was some opposition to the proposal of a Medical Faculty voiced by the medical profession in the Province, some of whom thought that a new province could only establish a second-rate school which would not compare with the established medical schools in Canada and elsewhere. The last 50 years have proven how wrong these gloomsters were.

CHAPTER II

The Basic Science Era in the Faculty of Medicine

1913 - 1921

IN THE autumn of 1913, the Faculty of Medicine came into existence as the fourth University faculty, having been preceded by Arts and Science in 1908 and Law in 1912. Applied Science, which began as an offspring of the Faculty of Arts and Science, was also established as a faculty in 1913. It is fortunate that all the Medical Faculty minutes, since its first meeting on April 3, 1914, have been kept intact. They form an interesting historical record and provide fascinating reading. The brief minutes of the first recorded meeting read as follows:

FACULTY OF MEDICINE

"The first meeting of the Medical Faculty of the University of Alberta was held in the President's office on Friday afternoon, April 3rd, 1914, at two o'clock. President Tory was in the chair. There were also present Messrs. Lehmann, Lewis, Revell, and Race. Mr. Boyle came in at three o'clock.

"The discussion centred around the arrangement of a curriculum for the first two years. It was felt that we should continue the general plan of making

the first year a year for a good course in the natural sciences. The following outline was suggested:

First Year

- (1) Physics
- (2) Chemistry (Inorganic)
- (3) Biology
 - (a) Botany
 - (b) Zoology
- (4) Elementary Bacteriology
- (5) French and German

Second Year

- (1) Anatomy
 - (a) Gross Anatomy
 - (b) Histology
 - (c) Embryology
- (2) Physiology
- (3) Chemistry (Organic)
- (4) Biochemistry
- (5) Pharmacy and Materia Medica

Third Year

- (1) Anatomy
- (2) Physiology and Physiological Chemistry
- (3) Bacteriology
- (4) Pathology
- (5) Clinical Medicine
- (6) Clinical Surgery
- (7) Pharmacology

"The President undertook to send out typed copies of this sketch to each of the men concerned so that they might work out general statements for the calendar and come together later to perfect the arrangement.

"The meeting adjourned at 3:30 p.m.

Signed:

CECIL E. RACE,
Secretary

Signed:

H. M. TORY,
President

This account is of historical rather than human interest except that Dr. R. W. Boyle, professor of physics, came in late. Dr. Boyle was later to distinguish himself in the field of ultrasonics as an aid to submarine detection in the First World War. Dr. John Macdonald in his "History of the University of Alberta" states that, had Canadian regulations permitted it, Dr. Boyle would have been awarded a knighthood for this distinguished service. The President presided at all Medical Faculty Council meetings until Dr. A. C. Rankin was appointed Dean of the Faculty in 1920. Dr. D. G. Revell, who was the first professor of anatomy, was the only medical man to attend the first Council meeting. Dr. A. L. F. Lehmann was professor of chemistry and Dr. F. J. Lewis was professor of botany. It is recorded that "26 students constituted the first class in the Faculty of Medicine" and that "arrangements were perfected to carry them through at least three years of a five-year course with the privilege of being transferred, if necessary, with full standing to certain eastern universities." During the years from 1913 to 1922 about 150 students completed the three-year program and were admitted with advanced standing to McGill, Toronto, or Manitoba.

The admission requirements to the University were then Grade XI, with the first year in the Faculty of Medicine actually a premedical year. The teaching in medical basic sciences began in the autumn of 1914. It is remarkable to recall that this teaching program was initiated and carried on by so few people—actually two full-time and six part-time teachers. Dr. D. G. Revell, who had been director of the Provincial Laboratory since 1907, was appointed professor of anatomy. He was a graduate of the University of Toronto and had done graduate work in anatomy at the University of Chicago. Dr. Revell, with the assistance of Mr. H. M. Vango, later to become assistant professor of pathology, taught gross and microscopic anatomy, embryology, and, in addition, gave an introductory course in pathology in the third year. Dr. A. C. Rankin, later to become the first Dean of the Faculty, was appointed professor of bacteriology and director of the Provincial Laboratory in 1924. However, with the outbreak of the First World War in 1914 he promptly joined the R.C.A.M.C. and went overseas. The teaching in bacteriology and clinical laboratory and the

directorship of the Provincial Laboratory was assumed by Dr. Heber C. Jamieson, who was later to become a professor of medicine. He carried on these duties in addition to private practice in internal medicine and can rightly claim to be the first internist in Alberta. Dr. Jamieson continued as acting director of the Provincial Laboratory until Dr. Rankin's return in 1919. Dr. Heber H. Moshier, a graduate of Toronto, came from Calgary in the autumn of 1914 to take charge of the teaching in physiology, with Dr. Irving R. Bell acting part time. Moshier was a dynamic, ambitious person with youthful vigor, who, it is said, ultimately planned on a career in internal medicine. He went overseas in 1916 as second in command of the 11th Field Ambulance with the rank of Major. He later became officer commanding this unit with the rank of Lieutenant Colonel and was killed in action in France in 1918 at the age of 27. The Moshier Gold Medal, which is the top-ranking medal of the Faculty, was established by the Voluntary Overseas Medical Officers Association to honor his memory. Dr. J. B. Collip, who had just obtained his Ph.D. from the University of Toronto, joined Dr. Moshier's department in the autumn of 1915 and took over the entire teaching in physiology, biochemistry, and pharmacology in 1916 when Dr. Moshier went overseas. Those who know Dr. Collip will not be surprised that, in addition to this tremendous teaching load, he carried on a research program and published several papers in those arduous years. The difficulty in obtaining staff during the war years in a new medical school must have been a real one. The names of Revell, Moshier, Collip, and Jamieson will be remembered as those who pioneered in laying the foundations of basic science teaching in the Faculty. The Edmonton practitioners who devoted time on an honorary basis during the formative years were Dr. J. A. McPherson, Dr. N. L. Terwillegar, Dr. I. R. Bell, Dr. G. C. Gray, Dr. L. C. Conn, and Dr. Morton Hall.

Clinical teaching was begun in the third year of the program and was carried out under the direction of Dr. Heber C. Jamieson in medicine, Dr. W. A. Wilson and Dr. Gordon C. Gray in surgery. The bedside teaching was done at the Strathcona Hospital, which early in the war was taken over by the Department of Defence as a military hospital. During the war years, not only the slender teaching staff, but also the student body

were depleted. Eighteen medical students joined the 11th Field Ambulance and proceeded overseas with Major Moshier in 1916.

The teaching space for the basic sciences was first located on the third floor of Pembina Hall, now a residence for women, which was built in 1914. Dr. Revell tells of the hauling of cadavers to the anatomy laboratory up three flights of stairs. One doubts if any of the women residents of this fine residential building realize that their living quarters were once used for the teaching of anatomy. The teaching area in 1915 was changed to the University power house building, which, incongruous as it may seem, was fairly adequate for the small classes of the early days.

In 1919, at the conclusion of the war, there was a tremendous demand for admission to the University, including the Faculty of Medicine. This made it absolutely imperative that provision should be made for the housing of the Faculty. In 1920, the construction of the Medical Building was begun, which was completed in the following year. This provided, for the time being, adequate teaching space for the basic science departments, which was welcomed by the Faculty. It was designed in a neoclassic style of architecture similar to the Arts Building built seven years earlier. These two buildings are the most beautiful on the campus today. The immediate postwar years saw a significant strengthening of the teaching staff in the basic sciences. Dr. J. J. Ower was appointed as professor of pathology in 1919. Dr. A. W. Downs was appointed professor of physiology and pharmacology in 1920 and was joined by Dr. N. B. Eddy as assistant professor. Both Dr. Downs and Dr. Eddy had been on the staff of McGill University. Dr. J. B. Collip was appointed to the new chair of biochemistry in 1920. Dr. R. M. Shaw was appointed assistant professor of bacteriology and hygiene in 1921. In the same year, Dr. R. F. Shaner was appointed assistant professor of anatomy. He is the only staff member of the earlier group who continues actively in teaching. Indeed, Dr. Shaner can justly claim to have taught anatomy to every medical student who took the full course in medicine at the University of Alberta. Following distinguished military service, for which he was awarded a C.M.G. by King George V, Dr. Rankin returned

to his position as professor of bacteriology and hygiene in 1919 and resumed his duties as director of the Provincial Laboratory. In 1920, he was appointed as Dean of Medicine, the third dean in the University. The organization of the expanded basic science departments and the planning of the clinical teaching program was carried out under the kindly, efficient direction of Dean Rankin. He set a pattern of tactful leadership in dealing with both staff and students which led to a remarkable esprit de corps which still exists. Dr. Rankin, a courtly scholar, was in every sense a "Dean of Medicine" and long after his retirement was affectionately known as "The Dean."

CHAPTER III

The Early Development of Clinical Teaching

1922 - 1935

EARLY in 1922 it was decided that, with the greatly increased registration in the Faculty of Medicine, consideration should be given to providing a full course of instruction leading to the M.D. degree. The course, as planned, extended over six years with the first year a pre-medical year. The subjects studied in the second and third years were basic sciences, while those of the final three were clinical. The final year was largely a hospital year with the students acting as assistants to the house staff in the teaching hospitals of the Faculty. The academic year of those days was 28 weeks, as compared with the present one of 34 weeks. In 1920, the Rockefeller Foundation made a gift of 100 million dollars towards the improvement of medical education in the United States and Canada. Of this sum, the University of Alberta received \$500,000 which provided an annual income of \$25,000. This amount, which was substantial in those days, helped the University to provide for added teaching staff.

Dr. F. H. Mewburn in 1922 was appointed as professor of surgery and director of surgery in the University Hospital. Colonel Mewburn,

or "The Colonel" as he was popularly called, a graduate of McGill University, was a pioneer in the practice of surgery in Alberta, having practiced in Lethbridge and Calgary before coming to Edmonton. In the early days of the West he had been an honorary surgeon of the Royal North West Mounted Police. During the First World War, Colonel Mewburn served with distinction and was awarded an O.B.E. for his services. He was an enthusiastic, colorful teacher and a rugged individualist with a forcefulness of manner and an elegance of vocabulary that impressed his colleagues, his students, and his patients alike. Dr. Mewburn continued as professor of surgery until his death in 1929. The Mewburn Gold Medal in Surgery, sponsored by the Medical Club, was established to honor his memory.

It is of historical interest to note that Colonel Mewburn was a member of the fourth of six successive generations which had a physician in the family. The first Dr. Mewburn was a dresser to Sir Astley Cooper in Guy's Hospital in London in the early 19th century. Dr. Hastings Mewburn, of the fourth generation, organized the Department of Orthopedic Surgery in the University Hospital in 1924 and was clinical professor of orthopedic surgery until he retired in 1948. Dr. "Hank" Mewburn had many of his father's qualities in forcefulness of character and vigor of language. He was an excellent orthopedic surgeon, a well-organized teacher, and a respected colleague. The medical Mewburn of the sixth generation is Dr. Robert Mewburn, who carried out graduate training in the Faculty of Medicine of the University of Alberta and was awarded an M.Sc. in Medicine in 1953. He is now on the staff of the University of British Columbia.

Dr. Egerton L. Pope, who had been assistant professor of medicine in the University of Manitoba, came to Edmonton in 1923 as the first professor of medicine and director of medicine in the University Hospital. Dr. Pope had been trained in the Oslerian tradition at McGill and in London. He was an excellent teacher with a finely cultured mind and a lively interest in art, music, and literature. Dr. Pope was an amateur portrait painter of some merit, with a warm personality, and exemplified the art of leisurely, gracious living which his colleagues and students

well remember. He continued as professor of medicine until 1944, when he retired to take over the position as director of the Provincial Cancer Clinic. He continued in this position until his death in 1949. The Pope Gold Medal in Medicine, sponsored by the Edmonton Academy of Medicine, was established in his honor.

The third professor in the clinical field to be appointed was Dr. L. C. Conn, who in 1924 was appointed professor of obstetrics and gynecology and director of this service in the University Hospital. Dr. Conn had a brilliant academic career as an undergraduate at McGill University, winning the Holmes Gold Medal for the highest standing throughout the five years of training. Following a period of four years of training in general surgery, obstetrics and gynecology, he took up practice in Edmonton in 1912. Dr. Conn was an outstanding teacher with forthrightness and sincerity that was appreciated by his colleagues and students. He served the University with zeal and devotion until his untimely death in 1941. The Conn Memorial Medal was established in his honor by Mr. C. H. Wood of Calgary in 1948.

By 1925, when the first class was graduated in medicine, there were in addition to the department heads nine part-time teachers in the Department of Medicine, 15 in the Department of Surgery, and three in the Department of Obstetrics and Gynecology.

In the basic science departments in 1925 there were four full-time and five part-time teachers in Anatomy, two full-time and two part-time teachers in Bacteriology and Hygiene, two full-time teachers in Biochemistry, two full-time and two part-time teachers in Pathology, and three full-time teachers in Physiology and Pharmacology.

The first class of 11 students received the degree of Doctor of Medicine on May 15, 1925. They were:

McGregor, Leone Clara	Lee, Carlton George
Bercov, Harry Aaron	Lewis, George Morris
Eadie, William Worth	Liesemer, Eldon John
Glenn, John Stuart, B.A.	Morrow, Robert John
Grimson, Julius Caesar	Weston, Daniel Tuttle
Law, Frank	

The remaining years of the twenties saw a slow but steady increase in student registration in medicine and an increase in those who completed the course in Alberta. There were still a few who, at the end of the third year of the program, transferred to McGill and Toronto Universities. However, as increased confidence in an Alberta M.D. developed, this number lessened. Shortly after the full course was offered at Alberta, a few students were admitted with advanced standing from the University of Saskatchewan, which had begun as a three-year school in 1926. This number increased in later years to six, thus augmenting the number in the graduating class.

There is recorded in the minutes of January 18, 1932, a letter to Dean Rankin from Dean Alexander Primrose, of the University of Toronto, in which he outlined a plan of conjoint examinations which might be held in the final year with the Medical Council of Canada. Dean Primrose pointed out the advantages to the students and felt that the rights of the University could be protected under such a plan. This matter was evidently discussed with fervor at subsequent Faculty Council meetings. The final decision was to reject it; and Professor Pope, the Alberta representative on the Medical Council of Canada, was instructed to report this decision at their next meeting.

This is of some interest, as in 1949 the Alberta Medical Faculty Council reconsidered a modification of the combined examination and accepted it. This arrangement is now in effect in most Canadian medical schools. The plan adopted in 1949 was the holding of combined written examinations in medicine, surgery, obstetrics and gynecology, preventive medicine, and pathology. The student papers were marked by the staff of the Faculty. Separate oral and practical examinations were held by the Faculty examiners in these subjects. If the student did not satisfy the University requirements, his paper was not forwarded to the Medical Council of Canada. The M.C.C. completed their examination by holding oral and practical examinations following a year of internship. In 1961, the procedure was changed so that students now take both the written, oral, and practical examinations at the end of the final year of medicine. A year of junior internship is required before

the M.C.C. certificate is issued. Pathology has been dropped as an M.C.C. subject and pediatrics has been added.

There was authorized in 1930 a B.Sc. degree in Medicine. The program leading to such a degree was that a student at the end of the fourth-year medicine would spend a year in graduate study in one of the basic sciences, carry out a research project under the supervision of the department head, and present a thesis. The first B.Sc. in Medicine was awarded in 1940 to Walter Stanley Hartroft, who carried out a research program in the Department of Anatomy under Professor Shaner. It is worthy of record that Dr. Hartroft, who graduated in medicine in 1940, has had a distinguished career in medical research. He held the position of professor of pathology in Washington University, St. Louis, and is now director of The Research Institute of The Hospital for Sick Children in Toronto. Dr. Hartroft was awarded an honorary degree of Doctor of Laws by the University of Alberta in 1961.

By the end of the twenties the Faculty of Medicine had become firmly established with added staff and a gradual increase in the number of graduating students. The class of 1931, by a strange coincidence in numbers, had 31 students, the largest number yet graduated. This confluence of numbers might have been interpreted as a happy omen for the future. Alas! in 1931, the full impact of the economic depression of the "terrible thirties" struck the University. It has been a policy of the Medical Faculty that economic matters are not discussed, so there is no official record of these dismal years. However, it is known that the meagre salaries of the teaching staff were cut back ruthlessly. Department budgets were slashed. New appointments and new equipment were not to be thought of. Research funds shrank like a snowball in the July sun. Students found difficulty in meeting even the modest tuition fees and living costs of those days. The graduating classes diminished in size, with the class of 1933 down to 15. However, economic depressions are ephemeral and come and go, while the things for which a university stands are everlasting. The members of the administrative and teaching staff of the University comforted themselves with the hope that "Dabit deus his quoque finem," tightened their belts and carried on.

CHAPTER IV

The Consolidation of Undergraduate Teaching

1936 - 1945

BY 1936 the clouds of the economic depression had begun to scatter and the next 10 years, in spite of the intervening war years, saw increased growth and stability in undergraduate teaching in the Faculty of Medicine. Increased registration in the Faculty had begun in 1935; and the Faculty Council, in January of that year, became concerned about the inadequacy of equipment and space in basic science teaching and the need for reorganization of clinical teaching with more access to patients. The Medical Building had from its beginning in 1920 house the Departments of Chemistry, Zoology, and Entomology. The teaching of the basic sciences in medicine was done in cramped quarters which were grossly inadequate for the increasing size of the classes in medicine. The basic science departments, in addition to teaching medical students, also taught students in dentistry, arts and science, and agriculture. Representations were made to the University administration for the addition of the east and west wings to the Medical Building. Since this was not to become a reality until several years

later, it was decided that standards for admission should be increased and an attempt made to limit the number of students entering first-year medicine. The curriculum in 1937, except for minor changes in teaching content, was similar to that of 1925, when the first class graduated. It was still a six-year program with the first year a pre-medical one. The final year had been modified so that the students "lived in" as undergraduate internes in the teaching hospitals. Didactic lectures had been all but eliminated from the final year. In 1937, a student was required to have an average of 65 per cent before entering the second year of medicine. Even with this requirement, the number of applicants could not be accommodated with the limited space, staff, and equipment. It was agreed that only 40 students could be admitted to second year. This is the first mention of the need for limiting the size of classes entering medicine and the use of the term "quota," which was an unhappy one. Consideration was given to increasing the standards of admission by requiring three years' study in the Faculty of Arts and Science beyond junior matriculation before entering medicine. The Council minutes state that this would make the Alberta entrance requirements conform to "some of the best schools" and should be considered quite apart from an attempt to limit the size of classes entering medicine.

In 1939, the increase in entrance requirements was adopted as a combined course leading to the degrees of B.Sc. and M.D. Students under this plan would be required to have senior matriculation and spend two years in the Faculty of Arts and Science. If the student had an average of 65 per cent in these two years, he would be eligible for admission to the first year of a five-year course in medicine, the final year of which was a hospital interne year. This program remained in effect until 1946, when it was decided to give the M.D. degree at the end of the fourth year. Under this plan the successful student was granted the B.Sc. degree at the end of his second year in medicine. This so-called combined course was discontinued in 1951 in favor of the plan in existence today. It was felt that the two premedical years were too rigid and did not allow students to take courses in the humanities. The student now may take two years of university work in any pattern or

any faculty provided he includes inorganic and organic chemistry, physics, and zoology. The average of 65 per cent or better, however, is still obligatory before qualifying for admission to medicine.

Additions to the basic science and clinical staff were made in the late thirties, and graduating classes had climbed again up to 35 by 1940. Students of the thirties will remember Rankin as Dean; Revell, Shaner, Green, Rawlinson, and Minish in anatomy; Downs and Eddy in physiology; Hunter and Cantor in biochemistry; Ower, Vango, and Macgregor in pathology; Shaw in bacteriology; and Bow in preventive medicine.

Clinical teaching was expanded beyond the University Hospital to the Royal Alexandra, General, and Misericordia Hospitals. Colonel Mewburn and Dr. Pope held clinical appointments on what we would now call a geographic full-time basis. They had offices in the University Hospital and did consulting practice. Dr. A. R. Munro was appointed to succeed Colonel Mewburn as professor of surgery, acting part time. Among the other clinical teachers of this era whose names will be indelibly associated with the Faculty were Heber Jamieson, Irving Bell, Walter Scott, Kenneth Hamilton, and Charles Hurlburt in medicine; Harold Orr in dermatology, Douglas Leitch and James Calder in pediatrics; Fulton Gillespie, H. H. Hepburn, J. A. McPherson, A. Blais, Gordon Gray, W. A. Wilson, and J. K. Fife in surgery; H. H. Mewburn and Graham Huckell in orthopedics; L. C. Conn, Ross Vant, J. O. Baker, Allan Day and J. D. Harrison in obstetrics and gynecology; Richard Proctor in radiology; Mark Marshall in ophthalmology and R.O.L.; Emerson Smith and Gordon Ellis in urology; Randall C. MacLean and Thomas C. Michie in psychiatry. The names are only a few of the many who carried out a heavy teaching load in these growing years.

At the outbreak of the Second World War, in 1939, Dean Rankin was appointed director of hygiene of the R.C.A.M.C. and left immediately to join headquarters staff in Ottawa. Dr. J. J. Ower was appointed Acting Dean and carried on in this capacity until the summer of 1943,

when Dr. Rankin was released from the R.C.A.M.C. and resumed his duties as Dean of the Faculty.

Early in 1941 it became obvious to the Department of Defence in Ottawa that there was an increasing need for medical officers in the three armed forces. A meeting of the deans of the faculties of medicine of Canadian universities was held in Ottawa on May 15, 1941. At that meeting recommendations were made to decrease the 12-month junior hospital internship to eight months as an emergency measure. The Council of the Faculty of Medicine agreed to this change. It was further recommended, at the request of the Director General of Medical Services, that an accelerated program of medical teaching should be instituted in the medical schools of Canada. The purpose of this was to increase the output of available medical officers.

Professor Rawlinson, whose ability in planning and teaching over his many years of service in the Council, submitted a plan on April 20, 1942, for a series of accelerated courses in medicine and dentistry. The first such session began on June 1, 1942, through to December 10, 1942, when final examinations began. The second accelerated course began on February 1, 1943, and continued to August 14. These accelerated courses continued throughout the rest of the war period with a vacation period of one month. The almost continuous study, teaching, and administration load was a heavy one to both students and staff. Arrangements were made that physically fit students of both sexes would be enlisted in the permanent forces of Canada with pay and allowances. Following graduation and an eight-month period of internship they were given the rank of 2nd Lieutenant in the R.C.A.M.C. and corresponding rank in the R.C.N. and R.C.A.F.

The size of the graduating classes in the war years varied from 35 to 47, with a total of 257 graduates from 1940 to 1945, most of whom became medical officers. A large number of the members of the teaching staff became medical officers in one of the three armed services. The Council records show that there were fears that the teaching might be seriously jeopardized. The Canadian Procurement and Assign-

ment Board, which had power in such matters, helped the Medical School to overcome this threat. A letter from the Minister of National Defence was read to Council on March 15, 1943, in which he stated that essential staff members would not be accepted by the armed forces without the consent of the Dean of the Medical Faculty, and that consideration would be given to the return or exchange of members of the teaching staff. Valuable assistance in clinical teaching during the war years was provided on a voluntary basis by medical officers of the Canadian and American armed forces who were stationed in Edmonton.

CHAPTER V

The Expansion of Graduate Teaching and Research

1946 - 1963

AS EARLY as November 1944 consideration was given to providing postgraduate and graduate training as a rehabilitation measure for medical officers on their discharge from service. Professor Hepburn acted as chairman of a committee to organize a series of short courses in the teaching hospitals. However, the need for providing graduate training for this group became an acute problem at the war's end in 1945. In the spring of 1945, Dr. A. C. Rankin retired as Dean of the Faculty after a period of 21 years of distinguished service. He was succeeded by Dr. J. J. Ower who had carried on as Acting Dean from 1939 to 1943 during Dr. Rankin's absence on war service. Those who knew "Johnnie" Ower, whether as students or colleagues, will remember him as an extraordinary person. He had a gift of buoyant, vivacious enthusiasm and a sincerity of interest in students that left a mark on all who knew him. One of Dr. Ower's first tasks at the end of the war was to provide for the tremendous influx of undergraduate veteran students. In addition, there was a large group of dis-

charged medical officers, many of whom had joined the services after eight months of junior internship, who wished to pursue further graduate training. Dean Ower, in the spring of 1946, appointed Professor M. R. Marshall as chairman of a committee on graduate training. Dr. Marshall developed a comprehensive program in conjunction with the basic science departments and the teaching hospitals of the Faculty of Medicine. This program, which covered specialty training in internal medicine, general surgery, obstetrics and gynecology, and ophthalmology, was approved by the Royal College of Physicians and Surgeons of Canada and the American Specialty Boards. This program was directed and expanded by Dr. Marshall until his retirement from teaching in 1961, when he was succeeded by Dr. R. E. Rossall, assistant professor of medicine. By the end of 1962, 67 graduate students had participated in this program, fulfilling the requirements to sit for the examinations in Certification and Fellowship of the Royal College of Physicians and Surgeons of Canada. It is interesting to note that of this group 50 are practicing their specialty in the Province of Alberta and 20 are teaching members of the Faculty of Medicine. The Royal College of Physicians and Surgeons of Canada, by setting standards of training and conducting examinations in the clinical specialties, stimulated interest and a degree of uniformity in clinical graduate training in which Alberta, in common with the other medical schools of Canada, shared. The teaching hospitals of the Faculty have been given complete or partial approval for graduate training by the Royal College in most specialties.

Over the past 15 years graduate training in the basic science departments has expanded, with 82 students proceeding to M.Sc. or Ph.D. degrees and a great increase in the number of graduate students. The Faculty of Medicine, in common with all other faculties in the University of Alberta, was asked to provide facilities for undergraduate teaching to a large group of veteran students in 1945. One special session of the University was held and army huts made their appearance on the campus. Because of the demand for teaching space, the classes were held from 8:00 a.m. to 6:00 p.m.

The Faculty of Medicine had, in the immediate postwar years, a tremendous increase in the number of applicants to first year. Dr. A. W. Downs and Dr. R. E. Rawlinson, as chairmen of the Admissions Committee, gave invaluable service. It was decided to increase the number admitted to first year to 60, with veterans being given priority. In order to provide teaching space in the basic sciences, extensions were made to the Medical Building. A new Provincial Laboratory building was constructed to house the Departments of Bacteriology and Pathology. Additions to the University Hospital and the other teaching hospitals made available added clinical teaching facilities.

Early in the nineteen fifties the Faculty, with the increasing size of its classes, recognized that reorganization of departments and curriculum and an increase in teaching staff were imperative. Psychiatry, Pediatrics, Preventive Medicine, and Anesthesia were set up as separate departments with added staff. In 1956, the Faculty of Medicine requested a visit from an accreditation team, with representatives from the Association of Canadian Medical Colleges, the Association of American Medical Colleges, and the Council on Medical Education of the American Medical Association. This three-man team made a critical study of the Medical School and made many valuable recommendations to the University administration as to how improvements in teaching facilities and staff additions could be carried out. In the three subsequent years an increase in operating budget, with provision for added teaching staff and increased facilities for teaching, became effective. This program of expansion has continued.

Another significant development in the third phase of growth of the Faculty of Medicine, which began in 1946, was the recognition that research should be encouraged and expanded in all departments of the Faculty. Research in some of the basic science departments had been active from the beginning. In Anatomy, Dr. R. F. Shaner had carried out important research on the embryology of the heart. In Physiology and Pharmacology, Dr. Downs and Dr. Eddy had been active. Dr. Samuel Gelfan, who joined this department, carried on valuable research in anesthesia. He and Dr. Irving R. Bell were the first to use divinyl ether

as an anesthetic on human subjects in 1932. In Biochemistry, Dr. Collip had carried on an active program of research. On his return from the University of Toronto, where he played a major role in making insulin available for clinical use, he, in 1925, isolated the parathyroid hormone at the University of Alberta.

However, the heavy teaching load and the scarcity of research funds and graduate students, particularly in the depression years, hampered research activities. In 1938, Sir Frederick Banting visited the Medical School as chairman of a medical committee of the National Research Council. He discussed with members of the staff methods by which financial aid could be obtained from the N.R.C. Dr. J. B. Collip, who succeeded Sir Frederick Banting on his untimely death, visited the Medical School in 1944 with a view to stimulating interest in medical research. When the war ended, the National Research Council expanded its policy of giving research grants-in-aid to staff members of medical schools. Over the succeeding years other sources of research funds became available, both from government agencies and private sources. the Board of Governors of the University, in 1949, made available to the Faculty an annual grant for the purpose of initiating research. In addition to grants-in-aid from governmental sources and private research foundations, there became available research associateships and research fellowships, which have provided continuity of support for research. The availability of research funds and the increasing number of graduate students in all departments has led to a tremendous increase in research activity in the past 10 years. In 1962-63, the number of papers published by staff members was 166, and the total amount of money utilized in medical research was \$920,000. A significant milestone in the encouragement of research in the medical schools of Western Canada was the establishment, in 1946, of a Western Regional Group of the National Research Council. This provides an annual meeting for the presentation of original work by members of the staff of the four western medical schools. The members of our staff played a part in its organization and make a significant contribution to its annual meetings.

The Collip Research Club, in honor of a distinguished graduate and former teacher, was established by the Faculty in 1946 as an organization for the presentation and discussion of research papers.

While men and money are of basic importance in research, bricks and mortar and research equipment must be available. The Alberta Division of the Canadian Cancer Society, largely through the efforts of Dean MacKenzie and Mr. R. Talbot, in 1952, made available to the Faculty a magnificent gift of \$150,000. This made possible the construction of the first unit of the John S. McEachern Cancer Research Laboratory. This unit is an integral part of the Faculty of Medicine with Dr. A. R. P. Paterson as director, who is a professor in the Faculty. In this laboratory basic research in the field of cancer is carried out.

In 1961, the University expanded the Medical Building, with provision for greatly needed teaching and research space for all departments of the Medical School. One floor of this addition houses the Department of Surgical-Medical Research, originally directed by Dr. R. Cameron Harrison, but now administered by Dr. K. Kowalewski. There has also been provided a modern, well-equipped vivarium under the direction of a doctor of veterinary medicine, Dr. D. C. Secord.

Research space for all of the clinical departments has also been made available by the transfer of a former D.V.A. building which is connected with the University Hospital. An active program of clinical research is carried on in this building by the clinical departments.

The Edmonton Provincial Health Laboratory provides laboratory services in bacteriology, virology, mycology, and pathology for physicians practicing in the northern area of Alberta. In addition, it provides modern facilities for teaching and research in these disciplines. An active program of research is carried on in this area.

Medicine is an everchanging dynamic discipline and the teaching of it is equally dynamic and subject to change. Modification of the curriculum with introduction of new teaching content and variation in the old has gone on in our Faculty from the beginning. About 15 years

ago it was recognized that, while part-time clinical teachers will always make a major contribution, the need for full-time clinical teachers became a necessity. The trend towards the appointment of geographic full-time clinical teachers in Canada began in the early postwar years. The first such appointment in our Faculty was that of Dr. D. R. Wilson as professor of medicine in 1954. In 1957, Dr. J. A. L. Gilbert was appointed as geographic full-time associate professor in medicine. Dr. R. A. Macbeth and Dr. R. C. Harrison were appointed associate professors of surgery in 1957. Dr. W. M. Paul in 1962 was appointed professor of obstetrics and gynecology and in 1959 Dr. T. R. Nelson as associate professor in the same specialty. There are now in all 21 geographic full-time appointments in the clinical departments. All of these highly qualified staff play a very important part in the administrative, teaching, and research activities of the clinical departments of the Medical School.

The Muttart Foundation in 1955 established the Muttart Research Associate Professorship in Medicine. Dr. R. S. Fraser has held this appointment since 1955.

The Markle Foundation selects Markle Scholars who act in administrative, teaching, and research capacities in American and Canadian medical schools. The Foundation pays to the medical school from which the Markle Scholar is selected a sum of \$6,000 per year for a period of five years during the tenure of the scholarship. Three members of our teaching staff in the Department of Medicine have been selected as Markle Scholars: Dr. D. R. Wilson, Dr. R. S. Fraser, and Dr. L. E. McLeod, all of whom hold geographic full-time appointments in the Faculty. The Markle Scholarships have been of the greatest value in furthering both teaching and research.

Within the past 10 years the aim has been in all departments to lessen the amount of didactic teaching of undergraduate students. Lectures and didactic clinics have been replaced to a large degree by tutorials and small-group teaching. The increase in the number of basic science teachers, the addition of geographic full-time teachers,

and the presence of graduate students in all departments has made this possible.

THE MEDICAL LIBRARY

The first home of the Medical Library was a very modest one, located on the second floor of the Medical Building. The reading area was of very small dimensions. The stack room space was grossly inadequate. When the Rutherford Library was opened on May 15, 1951, a greatly enlarged reading room and stack area became available for the Medical Library. However, with the increase of research activity and graduate study in the Faculty, the present Medical Library has again proven to be inadequate for the needs of the Faculty of Medicine. A new library for graduate students is now under construction west of the Arts Building. It is anticipated that our Faculty will occupy an area of 12,000 square feet on the fifth floor of this new building. This will be provided with open stacks and will be designed for graduate students. The present space in the Rutherford Library will be used by undergraduate students. The present library contains 12,600 volumes and a journal collection of 890. The Alberta Division of the Canadian Medical Association has recently made a substantial gift to the Medical Library. Dr. J. W. Pearce as chairman of the Medical Faculty Library Committee has contributed effectively in improving the Medical Library service.

THE STUDENT HEALTH SERVICE

This was first organized in 1914 by Dr. J. M. MacEachran, professor of philosophy and provost of the University for many years. The purpose of the Service was to provide medical and hospital service to all University students during the academic year. The Service is supervised by a committee appointed by the President on which the student body has representation. Dr. MacEachran acted as chairman of the Student Health Service Committee from its inauguration in 1914 until 1944, when Dr. P. S. Warren, the new provost, was appointed chairman. Dr. Warren was succeeded by Professor H. J. McLachlin in 1955. The director of the Service is a member of the teaching staff of the Faculty of Medicine, who is assisted by other members of the attending and

resident staff of the University Hospital. The first director was Dr. H. H. Moshier, who served from 1914 to 1916. He was succeeded by Dr. G. C. Gray who acted until Dr. E. L. Pope was appointed in 1923. Dr. J. W. Scott acted as director from 1944 to 1954, when Dr. J. Frank Elliott, the present director, was appointed.

The Service was originally housed in a few small rooms in the basement of Athabasca Hall. In 1940, when the R.C.A.F. took over the University residences, a temporary building was constructed on the campus to house the Service. With the growth of the University in the past 10 years the need for new permanent quarters became evident. A modern building containing 20 beds and adequate out-patient facilities was constructed close to the University Hospital in 1962, with a staff of 13 part-time physicians and 10 nurses. A valuable service offered by the Department of Pediatrics in the new building is a well-baby clinic for the preschool children of University students.

The Student Health Service has from its beginning been regarded as an activity of the Faculty of Medicine. The Dean of Medicine acts as a member of the supervisory committee.

A medical school could not function without a close, cordial relationship with its teaching hospitals. The hospital is the clinical workshop in which the student learns the art of medicine. Further, the hospital should provide facilities for clinical research which adds new knowledge for the improvement of patient care. Hospital administrators and patients make a contribution to medical education which cannot be overlooked. Our Faculty has been fortunate in this regard. When clinical teaching was initiated in 1922 as a part of the six-year program, there was some concern as to the availability of teaching material in a city of the size of Edmonton. There were no large charity wards such as existed in older medical centres. It was early recognized that in Edmonton all hospital patients who did not object might participate in the clinical teaching program. This policy continues to be followed in all the teaching hospitals. As a result, the problems which some of the eastern Canadian medical schools feared might arise with the implementation of the Hospital Insurance Act do not concern us in our school.

As has been noted, the Strathcona Hospital was taken over by the University of Alberta in 1922 and became known as the University of Alberta Hospital. Until 1929 the Hospital was administered by the University with the President as chairman of the Hospital Board. Since then, however, the University Hospital has been administered by a hospital board appointed by the Provincial Government and responsible to the Provincial Department of Health. The President of the University and the Dean of Medicine are statutory members of the Hospital Board. The relations between the Faculty of Medicine and the Hospital Board have been happy ones in undergraduate teaching, graduate teaching, and research.

The administrators of the University Hospital, the Royal Alexandra Hospital, the General Hospital, the Misericordia Hospital, the Aberhart Sanatorium, and the Charles Cammell Hospital have been sympathetic and cooperate with the Medical School in the clinical teaching program.

The Out-Patient Department of the University Hospital has had a chequered existence. It was first established in the University Hospital in 1922. Because of the then isolation of the hospital, it was decided to move the Out-Patient Department down town. Students of the thirties will remember it in a brick-dwelling house at the site of the present C.N.R. station. It later occupied an area in the Workmen's Compensation Building, and later in a building on Jasper Avenue East. With the completion of the University Hospital Clinical Service Unit in 1960, a modern, well-equipped Out-Patient Department was set up in the University Hospital under the direction of Dr. Adam Little. This unit is of great value in the clinical teaching program.

The extramural functions of a Faculty of Medicine form an important part of its activity. Continuing medical education has been carried out in a variety of ways. Beginning in 1931, an annual refresher course was organized by Dr. W. F. Gillespie, later professor of surgery. This course, lasting a week, continued over a period of 25 years. It attracted up to 200 graduates from Alberta and Saskatchewan. Dr. Gillespie, an excellent teacher with a gifted personality, died in 1949. In tribute to his work in the Faculty a W. F. Gillespie Memorial

Lecture was given at the University on April 23, 1955, by Dr. James T. Priestley of the Mayo Clinic. Dr. J. W. Macgregor, professor of pathology, succeeded Dr. Gillespie as chairman of the committee on the Refresher Course. The Refresher Course has been replaced by a series of two-day short courses in medicine, surgery, obstetrics and gynecology, and other specialties. The Alberta Division of the Canadian Medical Association collaborates with the Faculty of Medicine in planning these short courses. The program, which is designed to attract the general practitioner, is presented by members of the Faculty with the assistance of prominent outside speakers. Dr. H. E. Duggan, professor of radiology, since 1957 has acted as chairman of the Faculty Committee on Continuing Medical Education and as chairman of the Education Committee of the Alberta Division of the Canadian Medical Association. His committee plans the short courses.

The horizons of a medical school should extend beyond its immediate academic environment and include medical activities at the municipal, provincial, national, and international levels. The members of our Faculty have taken an active part in such organizations, both in the basic science and the clinical fields. Among these are the Federation meetings of Biological Societies, the Canadian Medical Association, at both the provincial and national levels, the Edmonton Academy of Medicine, the Royal College of Physicians and Surgeons, the American College of Physicians and the American College of Surgeons, the Canadian Society for Clinical Research, the Medical Research Council of Canada, and the specialty societies in both Canada and the U.S.A.

Lay societies with an interest in specific medical conditions, such as the Canadian Society for Arthritis and Rheumatism, the Canadian Cardiovascular Society, the Canadian Diabetes Society, the Canadian Cancer Society, have been aided in their organization and activities in the health field by members of our teaching staff.

Student organization is recognized as part of University life. The Student Medical Club was organized in 1916 and became the Medical Undergraduate Society in 1940. This student organization carries out

an active program of activities among which is the establishment of the Student Staff Liaison Committee. This group provides a useful link between students and staff in matters of common interest.

A measure of the success of a medical school is the achievement and the loyalty of its alumni. Many of our graduates have attained high places in Canada, the United Kingdom, and the United States. Alberta has been fortunate in the continuing loyalty of its alumni to their Alma Mater. In tangible ways have provided funds for student aid and have provided medals and other awards to undergraduate students. It has been gratifying to see their interest and enthusiasm in planning the celebration of the Fiftieth Anniversary of the Faculty.

The teaching of medicine as a learned profession has from time immemorial been recognized as part of the function of a university. The Faculty of Medicine, as one of the many faculties in a great and growing University, has maintained a lively interest at both the student and staff levels in the University community. Five of our medical students have been presidents of the Students' Union: Dr. Anna Wilson, Dr. M. R. Marshall, Dr. L. C. Grisdale, Dr. R. A. Macbeth, and Dr. John N. Chappel. A number of our staff members sit as members of faculty councils and committees outside of Medicine and thus contribute to the University community. The basic science departments, such as Anatomy, Physiology, Pharmacology, Biochemistry, Bacteriology, and Pathology, carry out an active teaching program for many non-medical students. The successive University presidents, from the days of Dr. Tory, have shown a sympathetic interest in the welfare of the Faculty of Medicine. Our sister profession of dentistry has, in the Faculty of Dentistry, grown up as a neighbor and friend of Medicine. The basic science teaching in dentistry is done by the staff of the Faculty of Medicine. From its beginning in 1917 Dentistry was a sub-faculty associated with our Faculty. In 1944, the sub-Faculty of Dentistry was given faculty status with Dr. Scott Hamilton as its first Dean. The University School of Nursing, with the late Miss Agnes McLeod as the first director, appointed in 1923, has continued as a School in our Faculty. The present director, Miss Ruth McLure, is a member of our

Faculty Council. The School of Physical Therapy was organized by the Faculty of Medicine in 1954 and continues as a School within our Faculty under the direction of Dr. J. R. Fowler. The Faculty of Pharmacy was initially a department within the Faculty of Medicine with Mr. W. S. Hole as head. It became a School within the Faculty of Medicine in 1917 and was elevated to faculty status, with Dr. M. J. Huston as Dean, in 1955. A course in Medical Laboratory Science was organized by our Faculty in 1950. The three-year program, leading to a degree of B.Sc. in Medical Laboratory Science, is supervised by the Faculty of Medicine.

The administration of the Faculty of Medicine is carried out by a Faculty Council, of which the President of the University is Chairman and the Dean of Medicine, Vice-Chairman. The Dean, as chief executive officer, presides at Council meetings, which are held periodically during the University Session. An executive committee acts between Council meetings. The Faculty maintains a close relationship with the Alberta College of Physicians and Surgeons. Dr. W. Bramley-Moore, the Registrar of the College, is a member of the Council.

In the past 50 years the Faculty of Medicine has had four Deans. The youth of the Medical School is evident from the fact that Dean W. C. MacKenzie and the three past Deans, Dr. A. C. Rankin, Dr. J. J. Ower, and Dr. J. W. Scott, in 1959 were able to meet for a group photograph. Dr. Rankin died later in the same year. Dr. Ower died in 1962.

CHAPTER VI

The Next Fifty Years

THE Faculty of Medicine, since it graduated its first class of 11 students in 1925, has, up to 1963, trained 1,459 doctors of medicine. After reviewing the activities of the past 50 years, since teaching began, it is tempting and, perhaps, futile to speculate as to developments over the next 50 years.

In terms of anticipated population of the Province of Alberta, demographers have estimated that by the end of the century Edmonton will have a population of one million and Calgary will likely have about the same number. By the year 2013 the total population of the Province may reach a total of three million or more. The anticipated registration at the University of Alberta by 1980 is 25,000. One can safely estimate that the registration in first-year medicine, which was 73 in 1962, will increase by 1980 to well over 100. With a population of three million in the year 2013, Alberta will require at least 3,000 doctors. To produce the number required annually, the Provincial University, or universities of that time, will have to turn out 300 doctors per year. There will likely be two or three medical schools in the Province when the centenary of the present school rolls around.

One may ask what changes will take place in medical school curriculum over the next 50 years? The basic science departments will continue to expand their interest in both teaching and research into the field of general biology, particularly at the submolecular level. The application of new knowledge in the natural sciences to the basic sciences of medicine will bring about startling changes in the type of courses offered to medical students in their preclinical years. How will this new knowledge affect the teaching and everyday practice of medicine? Dr. R. E. Bell, director of Clinical Laboratories of the University Hospital, has made some fascinating speculations in the field of laboratory medicine which he has kindly allowed me to quote:

"The application of scientific principles to the study of disease through laboratory measurement has already made its mark on medical practice. What further changes will laboratory science bring in the next 50 years? It is impossible to predict but, nevertheless, interesting to speculate upon.

"We may anticipate the vast majority, if not all, of the hematological and biochemical analyses used in medical diagnosis will be fully automated. The range of analyses will be greatly extended to include all the biological constituents of importance, not only in blood and excreta, but also in tissue samples. There are already indications of submolecular forces being disturbed in disease and a future laboratory will be required to determine such things as electron-spin-resonance, free radical activity, and other physico-chemical phenomena. A great extension in the measurement of physical parameters such as pH, blood flow, gas exchange, electrical activity, etc., will have been made. Many of the measurements will be made by external monitoring with apparatus automatically making multiple measurements, correlating the results, and providing intelligent interpretations. In the field of microbiology, identification of bacteria and viruses will have advanced from the present largely morphological basis to precise identification based upon determination of protein structure made without the necessity of culture. Similarly, in pathology, the present qualitative morphological evaluation of tissue change may be supplanted by more precise, specific chemical changes. The histological appearance of, for instance, Hodgkin's disease (if the disease still exists) will represent the logical end result of the basic and well-understood biochemical and physical abnormalities to cell growth or function. The electron microscope will be the mainstay of tissue examination, and the pathologist may expect to be able to examine tissue conveniently through the full range of magnifications from that of the lowest-powered light microscope

to almost molecular observation of electron microscopy. The tissues will be prepared, sectioned, photographed, or projected completely automatically.

“The immense amount of data that will be obtained from laboratory measurements will be far beyond the comprehension of even highly trained people without prior analysis of the information through computers. These will produce an immense improvement in diagnosis to the point where it will be made, except in rare instances, with almost complete certainty. Full laboratory records will be maintained on every patient and the data immediately recoverable in an instant and readily transmitted, if necessary, to wherever the patient may be located.

“On a visit to a medical laboratory 50 years from now, therefore, one may be interested to see, as well as the vast array of automatic instruments, such museum items as microscopes, hemacytometers, urinometers, colorimeters, and possibly even antique glassware in the nature of pipettes and flasks.”

In specific areas of practice one may ask: Will our knowledge of immunology and the perfection of surgical skills have reached a point where transplantation of organs and limbs will be an everyday procedure in the operating room? Will the riddle of cancer have been solved by 2013 with major changes in the teaching and practice of general surgery, diagnostic and therapeutic radiology? Will the mystery of arteriosclerosis have been unravelled with a revolution in our teaching and practice in cardiovascular and cerebrovascular disease? Will the advances in our knowledge of genetics and their application have eradicated congenital disease? Will advances in the social sciences have changed the pattern of living so that a course in sociological medicine will be a study of a utopia? When our students and staff meet in 2013 to celebrate the Centenary of our Faculty of Medicine, we hope they will be able to answer some of the questions in the affirmative.

Meanwhile, over the next 50 years, let us be assured that our Faculty of Medicine will continue to strive towards excellence in its four major functions: undergraduate teaching, graduate teaching, research, and the rendering of exemplary medical care in the community in which it serves.

APPENDIX

CHANCELLORS OF THE UNIVERSITY

1918-26 - - Mr. Justice C. A. Stuart
1926-27 - - Mr. Justice Beck
1927-41 - - Dr. A. C. Rutherford
1941-46 - - Mr. Justice Frank Ford
1946-52 - - Dr. G. Fred McNally
1952-58 - - Dr. E. P. Scarlett
1958 — - - Mr. Justice L. Y. Cairns

PRESIDENTS OF THE UNIVERSITY

1908-28 - - H. M. Tory
1928-36 - - R. C. Wallace
1936-41 - - W. A. R. Kerr
1942-50 - - Robert Newton
1950-59 - - Andrew Stewart
1959 — - - W. H. Johns

DEANS OF THE FACULTY OF MEDICINE

1920-39 - - A. C. Rankin
1939-43 - - J. J. Ower (Acting)
1943-45 - - A. C. Rankin
1945-48 - - J. J. Ower
1948-59 - - J. W. Scott
1959 — - - W. C. MacKenzie

EXECUTIVE SECRETARIES AND ASSISTANT DEANS

1938-50 - - H. E. Rawlinson
1950-53 - - W. R. Salt
1953-62 - - J. S. Thompson
1962 — - - D. F. Cameron

DEPARTMENT AND DIVISION HEADS

ANESTHESIA

1935-55 - - E. H. Watts
1956 — - - E. A. Gain

ANATOMY

1914-27 - - D. G. Revell
1927-59 - - R. F. Shaner
1959-62 - - H. E. Rawlinson
1963 — - - T. S. Leeson

BACTERIOLOGY

1914 - - A. C. Rankin
1914-19 - - H. C. Jamieson (Acting)

1919-45 - - A. C. Rankin
1945-49 - - R. M. Shaw
1950 — - - R. D. Stuart

BIOCHEMISTRY

1920-28 - - J. B. Collip
1928-29 - - J. W. Scott (Acting)
1929-49 - - George Hunter
1949-61 - - H. B. Collier
1961 — - - J. S. Colter

MEDICINE AND CLINICAL MEDICINE

1923-44 - - E. L. Pope
1944-54 - - J. W. Scott
1954 — - - D. R. Wilson

DIVISION OF DERMATOLOGY

1930-52 - - Harold Orr
1952 — - - P. L. Rentiers

DIVISION OF REHABILITATION MEDICINE

1956 — - - M. T. F. Carpendale

DIVISION OF THERAPEUTICS

1930-55 - - I. R. Bell
1955-61 - - F. S. B. Rodman
1951-62 - - J. R. Hilliard
1962 — - - W. A. Mahon

OBSTETRICS AND GYNECOLOGY

1924-41 - - L. C. Conn
1941-62 - - J. R. Vant
1962 — - - W. M. Paul

OPHTHALMOLOGY AND R.O.L.

1923-40 - - R. B. Wells
1923-40 - - C. V. Jamieson
1940-60 - - M. R. Marshall

OPHTHALMOLOGY

1960 — - - J. W. Duggan

R.O.L.

1950 — - - K. A. C. Clarke

PATHOLOGY

1919-51 - - J. J. Ower
1951 — - - J. W. Macgregor

PEDIATRICS

1923-56 - - D. B. Leitch
1956-57 - - James Calder (Acting)
1957 — - - J. K. Martin

PHYSIOLOGY AND PHARMACOLOGY

1914-16 - - H. H. Moshier
1916-20 - - J. B. Collip (Acting)
1920-49 - - A. W. Downs
1949-55 - - H. V. Rice
1955 — - - J. W. Pearce

PHARMACOLOGY

1961 — - - E. F. Daniel

PREVENTIVE MEDICINE

1927-55 - - M. R. Bow
1955-58 - - C. R. Amies
1958 — - - Stanley Greenhill

DIRECTORS OF THE PROVINCIAL HEALTH LABORATORY

1907-14 - - D. G. Revell
1914 — - - A. C. Rankin
1914-19 - - H. C. Jamieson (Acting)
1919-45 - - A. C. Rankin
1945-49 - - R. M. Shaw
1950 — - - R. D. Stuart

PSYCHIATRY

1956-57 - - Stanley Smith
1957 — - - K. A. Yonge

RADIOLOGY

1923-57 - - Richard Procter
1957 — - - H. E. Duggan

SURGERY AND CLINICAL SURGERY

1922-29 - - F. H. Mewburn
1929-38 - - A. R. Munro
1938-49 - - W. F. Gillespie
1949-51 - - H. H. Hepburn
1951-60 - - W. C. MacKenzie
1960 — - - R. A. L. Macbeth

DIVISION OF CARDIO-PULMONARY SURGERY

1960 — - - J. C. Callaghan

DIVISION OF EXPERIMENTAL SURGERY

1954-60 - - R. C. Harrison

1960 — - - K. Kowalewski

DIVISION OF NEUROSURGERY

1932-51 - - H. H. Hepburn

1951 — - - G. K. Morton

DIVISION OF ORTHOPEDIC SURGERY

1924-44 - - Hastings Mewburn

1944-58 - - R. G. Huckell

1958 — - - Olav Rostrup

DIVISION OF UROLOGIC SURGERY

1923-35 - - E. C. Smith

1935-60 - - G. N. Ellis

1960 — - - J. O. Metcalfe

GRADUATING CLASSES, 1925-1963

1925 - - - - -	11	1946 - - - - - Jan.	32
1926 - - - - -	17	(with internship)	
1927 - - - - -	15	1946 - - - - - May	44
1928 - - - - -	18	(without internship)	
1929 - - - - -	18	1948 - - - - - May	32
1930 - - - - -	19	(with internship)	
1931 - - - - -	31	1948 - - - - - May	44
1932 - - - - -	22	(without internship)	
1933 - - - - -	15	1949 - - - - -	34
1934 - - - - -	24	1950 - - - - -	41
1935 - - - - -	29	1951 - - - - -	58
1936 - - - - -	21	1952 - - - - -	53
1937 - - - - -	32	1953 - - - - -	53
1938 - - - - -	31	1954 - - - - -	63
1939 - - - - -	32	1955 - - - - -	55
1940 - - - - -	35	1956 - - - - -	58
1941 - - - - -	37	1957 - - - - -	46
1942 - - - - -	47	1958 - - - - -	44
1943 - - - - - Jan.	33	1959 - - - - -	50
1943 - - - - - Sept.	35	1960 - - - - -	52
1944 - - - - -	37	1961 - - - - -	50
1945 - - - - -	33	1962 - - - - -	53
		1963 - - - - -	40
		Total to 1963 - - - - -	1,459

OPERATING BUDGET

1913	-	-	-	-	-	-	-	-	-	-	\$ 7,500
1920	-	-	-	-	-	-	-	-	-	-	20,000
1921	-	-	-	-	-	-	-	-	-	-	32,000
1926	-	-	-	-	-	-	-	-	-	-	60,000
1934	-	-	-	-	-	-	-	-	-	-	60,000
1944	-	-	-	-	-	-	-	-	-	-	130,000
1954	-	-	-	-	-	-	-	-	-	-	315,000
1963	-	-	-	-	-	-	-	-	-	-	1,300,030

DIRECTORS OF STUDENT HEALTH SERVICE

1914-16	-	-	H. H. Moshier
1916-23	-	-	G. C. Gray
1923-44	-	-	E. L. Pope
1944-54	-	-	J. W. Scott
1954 —	-	-	J. F. Elliott

RHODES SCHOLAR

1935-37	-	-	D. R. Wilson
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MARKLE SCHOLARS

1948-53	-	-	D. R. Wilson
1953-58	-	-	R. S. Fraser
1958-63	-	-	L. E. McLeod

MUTTART RESEARCH ASSOCIATE PROFESSORSHIP

1955-62	-	-	R. S. Fraser
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MEDALISTS OF THE ROYAL COLLEGE OF SURGEONS OF CANADA

1954 —	-	-	R. C. Harrison
1956 —	-	-	W. H. Lakey
1958 —	-	-	P. B. R. Allen

PRESIDENTS OF THE MEDICAL UNDERGRADUATE SOCIETY SINCE 1940

1940-41 - - W. R. Bell	1949-50 - - D. B. Baker
1941-42 - - A. K. Gibbons	1950-51 - - G. D. Molnar
1942 — - - J. W. Duggan (June - December)	1951-52 - - Richard MacDonald Jr.
1943 — - - J. B. Wallace (February - August)	1952-53 - - R. L. Hay
1943-44 - - R. G. Christie (September - April)	1953-54 - - F. C. Marshall
1944 — - - R. C. B. Corbet (June - December)	1954-55 - - D. R. Shea
1945 — - - P. J. E. Kimmitt (February - August)	1955-56 - - M. I. Tedeschini
1945-46 - - D. B. Wray	1956-57 - - R. F. Clark
1946-47 - - G. M. Fierheller	1957-58 - - D. M. Gilmour
1947-48 - - A. L. Hepburn	1958-59 - - J. A. Cairns
1948-49 - - E. C. Shortliffe	1959-60 - - J. N. Chappel
	1960-61 - - R. A. Morgan
	1961-62 - - R. J. Raine
	1962-63 - - R. A. Cumming
	1963-64 - - A. L. Maberley

PRESIDENTS COLLIP RESEARCH CLUB

1947 — - - J. A. Romeyn (January - October)	1954-55 - - R. C. Harrison
1947 — - - M. M. Cantor (October - December)	1955-56 - - W. R. Salt
1948 — - - H. E. Rawlinson	1956-57 - - R. S. Fraser
1949 — - - William Stewart	1957-58 - - C. R. Amies
1950 — - - D. R. Wilson	1958-59 - - M. T. F. Carpendale
1951-52 - - Jules Tuba	1959 60 - - C. W. Nash
1952-53 - - R. E. Bell	1960-61 - - C. M. Couves
1953-54 - - J. H. Stirrat	1961-62 - - A. G. Stewart
	1962-63 - - T. A. S. Boyd

PRESIDENTS OF THE MEDICAL ALUMNI ASSOCIATION

(Organized in 1945)

1945 — - - P. H. Sprague	1954-55 - - R. E. Jespersen
1946 — - - A. C. McGugan	1955-56 - - L. O. Bradley
1947 — - - N. E. Alexander	1956-57 - - Samuel Hanson
1948 — - - A. H. MacLennan	1957-58 - - H. A. Arnold
1949-50 - - Edward Hitchin	1958-59 - - A. V. Follett
1950-51 - - F. D. Conroy	1959-60 - - J. A. O'Brien
1951-52 - - A. W. Hardy	1960-61 - - J. L. Edwards
1952-53 - - Olav Rostrop	1961-62 - - N. W. Nix
1953-54 - - J. M. Lees	1962-63 - - A. L. Hepburn

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